



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10**

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OFFICE OF
ECOSYSTEMS,
TRIBAL AND PUBLIC
AFFAIRS

January 29, 2015

Colonel Christopher D. Lestochi
Alaska District Engineer
U.S. Army Corps of Engineers
P.O. Box 6898
JBER, Alaska 99506-0898

Dear Colonel Lestochi:

The U.S. Environmental Protection Agency has reviewed Public Notice No. POA-2006-597-M1, dated December 1, 2014, which describes a proposed project by the Alaska Department of Transportation and Public Facilities to improve surface transportation from Juneau to Haines and Skagway by extending Glacier Highway 50.8 miles along the eastern shore of the Lynn Canal. The new road would terminate at a new ferry terminal that is proposed to be built north of the Katzechin River. The proposed project would discharge approximately 687,668 cubic yards of rock, sand, gravel, and fill material into 100.1 acres of waters of the United States, including wetlands and intertidal marine waters.

By this letter, I am providing notice to you that, in the opinion of the EPA, this project may result in substantial and unacceptable impacts to aquatic resources of national importance as defined in paragraph IV(3)(a) of the August 11, 1992 Memorandum Of Agreement between our agencies (Section 404(q) MOA).


During our review of a similar proposal in 2006, the EPA concluded that the Juneau Access Improvement Project would cause unacceptable adverse impacts to Berners Bay. We stand by our concerns for the impacts to the Berners Bay watershed. The EPA is additionally concerned that some of the alternatives may also pose unacceptable impacts to Lynn Canal, which is an aquatic resource of national importance as it provides valuable habitat to an expansive variety of fish and wildlife and supports an outdoor tourism industry that is directly related to its pristine natural condition. The EPA acknowledges that the overall impacts to aquatic resources for the project have been reduced in the current proposal as compared to the 2006 proposal, and we appreciate ADOT&PF's efforts to minimize impacts to aquatic resources. The EPA also acknowledges the expanded alternatives analysis in the current Draft Supplemental Environmental Impact Statement as a result of the 2009 District Court decision. Additionally, the EPA has reviewed the proposed project in light of the 2008 *Compensatory Mitigation for Losses of Aquatic Resources; Final Rule* which was not in place when the previous permit for this project was issued.

Having reviewed the current proposal and considering this information, the EPA maintains that the direct and cumulative effects of the project may substantially and unacceptably impact Berners Bay and the Lynn Canal watershed, both aquatic resources of national importance. The EPA believes that there are less environmentally damaging and practicable alternatives in light of the overall project purpose. Further details on the EPA's position on this project are found in the enclosures to this letter.

Our agencies have been working together in good faith to analyze the existing application materials and to gather additional information necessary to make an informed permitting decision. I appreciate the continued commitment to cooperate with the EPA as we review current information. In accordance with paragraph IV(3)(a) of the Section 404(q) MOA, the EPA may provide further comments on this matter over the next 25 calendar days, or no later than February 23, 2015.

Again, I appreciate the attention that you and your staff have provided to this project, and I look forward to quickly addressing the remainder of the EPA's concerns. Should you have any questions about this letter, please do not hesitate to contact me or have your staff contact Becky Fauver, Biologist, at (206) 553-1353 or fauver.becky@epa.gov.

Sincerely,

A handwritten signature in blue ink, appearing to read 'R. David Allnutt', with a stylized flourish at the end.

R. David Allnutt, Director
Office of Ecosystems, Tribal and Public Affairs

Enclosures (2)

cc: Steve Brockman, Deputy Field Supervisor
USFWS Juneau

Linda Shaw, Wildlife Biologist
NOAA Juneau

Michelle Hale, Director of Water
ADEC

Enclosure A

Berners Bay, Lynn Canal and the waters of the Lynn Canal Watershed are Aquatic Resources of National Importance (ARNI)

Lynn Canal is a rugged and spectacular glacially-carved fjord located in southeastern Alaska between Juneau and Haines, an area that provides valuable habitat to an expansive variety of fish and wildlife and supports an outdoor tourism industry (ADF&G, 2015). It runs about 90 miles (140 km) from the inlets of the Chilkat River south to Chatham Strait and Stephens Passage. At over 2,000 feet (610 m) in depth, Lynn Canal is the deepest fjord in North America (outside Greenland) and one of the deepest and longest in the world as well. It forms a portion of the waters of Alaska's Inside Passage, thus making it a major route for shipping, cruise ships, and ferries.

The watersheds draining into Lynn Canal, including those that comprise Berners Bay, are largely unimpacted, owing in part to the rugged terrain that has generally hindered the easy development of land-based transportation routes. The rivers and streams that drain into Lynn Canal and the relatively pristine waters of the canal, surrounding wetlands, and shallow waters support a number of significant fisheries. In addition, the waters of Lynn Canal support populations of marine mammals, including Steller sea lions and the endangered humpback whale. The surrounding watersheds, particularly on the eastern side of Lynn Canal, including the Berners Bay watershed, support significant wildlife, including moose, brown bears, mountain goats, and wolverines, as well as large numbers of nesting bald eagles. This consideration, as well as the magnificent scenery, have made this region one of the premier destinations for recreational wildlife viewing from both small vessels as well as cruise ships. Two rivers on the east side of Lynn Canal, the Gilkey River (which empties into Berners Bay via the Antler River) and the Katzechin River¹ have been recommended for listing as Wild and Scenic rivers by the U.S. Forest Service.

Attributes of Lynn Canal and its Watershed

Most streams in the project area originate in undeveloped alpine areas and are clear and low in dissolved solids. The larger rivers generally originate from glaciers and characteristically carry large silty glacial plumes into Lynn Canal off Berners Bay and the Katzechin Delta. Overall, water quality in the project area is high except during periods of heavy runoff when plumes of glacial silt can be seen at the mouth of most streams.

Fish and Fisheries

All five species of Pacific salmon occur in Lynn Canal. Salmon are fished commercially, recreationally, and for subsistence. The Lynn Canal drift gillnet fishery targets Sockeye, Summer Chum, Coho, Fall Chum and Pink Salmon. Chinook Salmon are taken incidentally (Bachman, 2011). Runs of Sockeye Salmon in Lynn Canal have historically been among the largest in Southeast Alaska (Bachman, 2010). The Coho and Fall Chum Salmon runs to the Chilkat River are among the largest in northern Southeast Alaska (Bachman and McGregor, 2001).

¹ The lower two mile section of the Katzechin River is currently not under consideration for this designation because it has been designated a transportation corridor owing to the proposed project, not because the river lacks wild and scenic properties in this stretch.

Recent research indicates that the estuarine waters of Lynn Canal may provide habitat of some importance to a portion of the rearing salmon fry, known as “nomads”, which migrate out of fresh water and return before eventual migration into marine waters. A substantial body of evidence, summarized by Koski (2009), indicates that many nomads likely survive and grow in the estuary, returning to overwinter before migrating as smolts the following spring. Shaul *et al.* (2013) recorded movement of coded-wire tagged fish among streams separated by saltwater distances of 56–113 km in Lynn Canal and Stephens Passage, Southeast Alaska. Their work indicates that presmolts are able to overcome osmoregulatory challenges to achieve much of their growth in marine as well as estuarine waters before they re-enter freshwater in the fall to overwinter and move to the sea in the spring. Of a total of thirteen recovered tags, two were from fish migrating upstream in Auke Creek in the fall (September–October). The other tagged fish were captured in downstream migrant smolt traps in the spring, including ten fish from the Berners River and one from Jordan Creek. Consequently, Lynn Canal may play a greater role in salmon support than previously supposed.

Other fish species in Lynn Canal which are fished recreationally or for subsistence include halibut; steelhead, cutthroat and rainbow trout; Dolly Varden; black cod, lingcod, and sharks. Two other species of fish, Pacific eulachon and Pacific herring, are of particular significance. Pacific eulachon, a species of smelt, has a short spawning run in the spring. Eulachon were traditionally important for subsistence, being prized for their high fat content which can comprise up to 15% of total body weight (National Marine Fisheries Service, 2015). This small forage fish, along with the Pacific herring, both spawn in Lynn Canal in nearshore shallows, particularly in Berners Bay, and form an important food base for many species of importance, including populations of Steller sea lions and humpback whales. Both the eulachon and Pacific herring have declined dramatically, and eulachon harvests have been closed in areas of Southeast Alaska in recent years by the Alaska Department of Fish and Game (ADF&G, 2014; ADF&G, 2012). The southern population of eulachon, south of Alaska, was listed as threatened in 2010 under the Endangered Species Act.

Lynn Canal supports populations of the Pacific herring, which remain an important commercial fish as well as significant forage fish for many aquatic species. Pacific herring have supported some of Alaska’s oldest commercial fisheries, and subsistence fisheries for herring in Alaska predate recorded history. The spring harvest of herring eggs on kelp or hemlock boughs has always been an important subsistence resource in coastal communities throughout Alaska. Traditional dried herring remains a major staple of the diet in Bering Sea villages near Nelson Island (Pete 1990) where salmon are not readily available. Declining herring stocks led to a petition in 2007 to consider the Lynn Canal population of herring for listing under the Endangered Species Act; in 2014, the Department of Commerce made a decision that listing was not warranted (Department of Commerce, 2014). However, the Alaska Department of Fish and Game, which manages the herring fishery on a sustained yield basis, published a notice of closure of the gill net Sac roe fisheries for this species in some locations in Southeast Alaska in 2015 (ADF&G, 2015).

Marine Mammals

The Steller sea lion, *Eumetopias jubatus*, has been identified as comprising two distinct population segments in the northern Pacific. These are the Eastern Population Segment (EPS) and the Western Population Segment (WPS). Both population segments have experienced dramatic declines, which led to

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their listing as threatened under the Endangered Species Act. The EPS was de-listed in 2013, due to population studies indicating its numbers are stable (Department of Commerce, 2013). The WPS, first listed in 1997, is still listed as endangered (NOAA, National Marine Fisheries Service, 2015). Lynn Canal supports a number of rookeries for Steller sea lions, which are communal breeders. Furthermore, genetic studies performed by Gelatt *et al.* (2007) indicate that Steller sea lion pups found in Glacier Bay and Icy Straits contained material markers for the WPS. These genetic data on newborn pups suggest that female dispersal from the western stock may be greater than that noted at the time of the original population subdivision, when the geographic boundary was identified (Bickham and others, 1996). Given the proximity of Glacier Bay to Lynn Canal, a precautionary approach to evaluating new impacts seems warranted.

The humpback whale, *Megaptera novaeangliae*, is considered endangered throughout its range. Pacific populations typically winter in the Hawaiian islands to calve, and migrate to the north Pacific for the summer months, where they spend their time building up fat reserves by filter-feeding on krill and small fish. Lynn Canal and Berners Bay provide summer habitat for humpback whales.

Wildlife

ADF&G has performed considerable research on different populations of large mammals in the vicinity of Berners Bay. In particular, the east side of Lynn Canal, and the Tongass National Forest, support populations of brown bear, moose, mountain goat, and wolverine, among others. Each of these species maintains large home ranges (e.g., 555 km² for male brown bears, approximately four times that of the female's home range). Bears spend summers feeding heavily on salmon that come from Lynn Canal to spawn in the freshwater rivers and streams in the watershed (ADF&G, 2012). The proposed Juneau Access highway alignment is likely to impact bears seeking relatively low elevation salmon streams. Moose seek lower elevations in the Berners Bay area during the summer and feed primarily on deciduous shrubs in wetlands and adjacent areas (ADF&G, 2012). Moose may be susceptible to increased moose-vehicle collisions, as well as impacts from increased human access. Mountain goats, while seeking rugged areas close to cliffs, tend to seek lower elevation areas in the winter, and select lower elevation wintering areas in the eastern Lynn Canal area as compared to animals that winter east of Berners Bay (ADF&G). The proposed Juneau Access highway alignment intersects important mountain goat wintering areas along eastern Lynn Canal. Implications of highway construction for local mountain goat populations include the potential for mountain goat-vehicle collisions, sub-lethal disturbance and increased human access.

There are also a large number of bald eagle nests that would be anticipated to be impacted by the proposed highway. Approximately 92 bald eagle nests are located within 0.5 miles of the proposed road alignment. Of those, approximately 49 are within 330 feet of the highway. Bald eagles, which feed on fish, are particularly susceptible to noise and disturbance, which may cause them to abandon the nests.

Recreational Resources

The scenic beauty, exceptional fish and wildlife resources, and largely undisturbed nature of Lynn Canal and the surrounding watershed have made this portion of the Inside Passage a desirable destination for wildlife viewing, kayaking, and – potentially the activity which generates the highest amount of

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recreational revenue – cruise ships. In an article analyzing the tourist industry in Southeast Alaska, John Sisk wrote:

Interviews with visitors to Southeast consistently reveal that they come to see, and value, three top attributes: the Inside Passage itself, magnificent scenery, and abundant marine and terrestrial wildlife. These three experiences derive directly from the Tongass National Forest and Glacier Bay National Park, and the marine waters that ebb and flow among the islands of the Alexander Archipelago. These federal lands and waters together create the essential asset, the foundation, for the tourism industry of Southeast.

(Sisk, 2005).

Lynn Canal, which forms part of the Inside Passage and is bordered by the Tongass National Forest, thus has significance in supporting Southeast Alaska's tourist industry. Between nearly 500 trips made by cruise ships during the season (Nuka Research and Planning Group, LLC, 2012), and the increasing numbers of Southeast Alaska businesses which provide small boat trips, helicopter trips, kayak trips, sport fishing trips, etc., the recreation-based contribution of Lynn Canal to the Southeast Alaskan economy is significant. Indeed, in an evaluation of Alaskan tourism performed by the Resource Development Council for Alaska (2015), it was estimated that more than one-half of all visitors to Alaska come by cruise ship, and that direct visitor spending is more than \$1.8 billion annually, excluding fares paid to travel (air, cruises, etc.). This spending figure increases to \$2.42 billion when labor income from visitor industry jobs is factored in. The exceptional aquatic resources of Lynn Canal and its watersheds contribute significantly to this total and help to provide unique and significant recreational opportunities, in addition to their support for fish and fisheries as well as wildlife.

Conclusions

The aquatic resources in the Lynn Canal and its contributing watersheds in Southeast Alaska are exceptional. Lynn Canal helps to support, and provide habitat critical to a number of threatened or endangered species of marine mammals. It supports significant runs of all five species of Pacific salmon, four of which are commercially harvested, as well as providing subsistence and recreational fishing for all of the salmon species and other salmonid and non-salmonid fish species. The intact ecosystems which form this watershed support significant numbers of large mammals, some of which are much less common or absent in the lower 48 states. Finally, the significant recreational opportunities it supports are an important sector to the Alaskan economy. The EPA therefore concludes that, based on any one of these criteria, Lynn Canal and its supporting waters are an Aquatic Resource of National Importance (ARNI) as defined in paragraph IV(3)(a) of the August 11, 1992 memorandum of agreement between our agencies (Section 404(q) MOA) in regard to Public Notice Reference No. POA-2006-597-M1, Berners Bay/Lynn Canal.

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Enclosure B

Impacts to Waters of the US from the proposed Juneau Access Improvement Plan and Compliance with the Clean Water Act Section 404(b)(1) Guidelines

Summary of Impacts

The current project proposal includes a total of 100.1 acres of impacts to aquatic resources, including 60.7 acres of wetland fill, 2.9 acres of stream fill for 46 stream crossings, and 25.5 acres of marine waters for roadway work. Additionally, the project proposes to fill 6.6 acres of nearshore marine waters for ferry terminal pad and breakwater construction in previously unaltered waters near the Katzechin River, and to dredge 4.4 acres of marine waters for ferry terminal construction. These impacts reflect a reduction in impacts to aquatic resources from the previous project plan. The EPA appreciates those reductions.

The Berners Bay watershed will, however, continue to be affected by the proposed project through filling of an additional 0.6 acres of wetlands due to proposed widening of the first 2.9 miles of highway. Additionally, 4.7 acres of wetlands (4.0 acres of forested wetlands and 0.7 acres of scrub-shrub wetlands) would be filled from the end of Glacier Highway to the Antler River. The road would cross the Antler, Lace and Berners rivers and fill 0.4 acres of wetlands. The development of the proposed road would impact Berners Bay and its watershed by the direct filling of aquatic resources. The fill would inhibit water flow through the wetlands, may cause flooding over the road, and would be likely to add considerable amounts of sediments into nearshore waters. There would be loss of hydrologic connectivity from the wetlands, which maintain water quality in the nearshore waters and provide important detrital inputs that maintain estuarine food chains, would impact both water quality in the Bay as well as food web support for fish and marine mammals. The indirect impacts of the road around Berners Bay include increased vehicle and human traffic to this otherwise undisturbed and pristine area.

North of Berners Bay, from Slate Cove to Sherman point, 53.4 acres of forested wetland are proposed to be filled for the highway. This section of the road goes through the Tongass National Forest and the pristine Lynn Canal watershed. From Sherman Point to the Katzechin River, 1.6 acres of palustrine forested wetlands, 21.7 acres of rocky shores, and 3.2 acres of estuarine unconsolidated bottom at the Katzechin River would be filled. The 3.2 acres of fill in the Katzechin River proposed to be filled would impact areas rated high for fish habitat. From the Katzechin River to the Katzechin ferry terminal, 0.6 acres of rocky shore and beach bar areas will be filled along this portion of the highway. The proposed new ferry terminal would require an additional 4.4 acres of dredging and fill of 6.6 acres of rocky shoreline habitat for breakwaters and terminal facilities.

Compliance with the Clean Water Act Section 404(b)(1) Guidelines

In addition to the Corps' substantive permitting regulations, the Section 404(b)(1) Guidelines (Guidelines) establish the conditions under which the discharge of dredged or fill materials may be authorized by a CWA section 404 permit. The Guidelines contain four fundamental restrictions on discharge, and no Section 404 permit may be issued unless compliance with the Guidelines has been demonstrated. A proposed discharge does not comply with the Guidelines if: 1) there is a practicable alternative to the proposed discharge that would result in less impact to the aquatic environment; 2) the

proposed discharge will cause or contribute to the violation of water quality or toxic effluent standard, jeopardizes a threatened or endangered species, or impacts a marine sanctuary; 3) the proposed discharge will result in significant degradation of the aquatic ecosystem; or 4) the proposed discharge does not include all appropriate and practicable measures to minimize potential harm to the aquatic ecosystem. In addition, a proposed discharge will be considered non-compliant with the Guidelines if there is not sufficient information to make a reasonable judgment as to whether the proposed discharge will comply. Clearly demonstrating compliance with the Guidelines is in all cases the responsibility of the applicant.

AVOIDANCE

Least Environmentally Damaging Practicable Alternative (LEDPA)

The Guidelines allow for authorization of the least environmentally damaging practicable alternative (LEDPA) (40 CFR part 230.10(a)). The applicant must clearly demonstrate that there is no practicable alternative that is less environmentally damaging. The Draft Supplemental Environmental Impact Statement (DSEIS) includes a 404(b)(1) analysis that includes a practicability evaluation of eight alternatives. The alternatives include a No Action Alternative that includes scheduled upgrades to the existing ferry system, and seven Action Alternatives that includes new highways along the east or west side of Lynn Canal, or enhanced ferry service using new or existing facilities and various types of ferries. The applicant's practicability evaluation determined that the No Action, 1B (enhanced ferry service with existing assets), 4A (fast vehicle ferry service from Auke Bay), 4B (fast vehicle ferry service from Berners Bay), 4C (conventional monohull service from Auke Bay), and 4D (conventional monohull service from Berners Bay) were not practicable because they did not meet the defined need based on an unconstrained daily vehicle demand. The unconstrained daily vehicle demand is based on a road-only alternative for travel between Juneau and Haines and Skagway. The EPA does not agree that the alternatives be compared to a road-only alternative as this is not a realistic alternative since all of the evaluated alternative routes rely on at least one ferry. The applicant's analysis also determined that Alternative 3 (West Lynn Canal Highway) was not practicable due to adverse environmental impacts as well as lower traffic capacity compared to Alternative 2B (East Lynn Canal Highway). The applicant states that Alternative 2B is their preferred alternative in the DSEIS and thus the proposed project under Public Notice Reference Number POA-2006-597-M1. Environmental impacts are not used to determine practicability, but are used to determine the least environmentally damaging alternative in light of the alternatives considered practicable.

The EPA concludes that the applicant's 404(b)(1) analysis incorrectly applies the Guidelines and does not clearly demonstrate that there are no practicable alternatives to the proposed road. Therefore, there is insufficient information at this time to nullify the presumption that practicable alternatives to the proposed road are available.

The term "practicable" means available and capable of being done after taking into consideration cost, existing technology, and logistics in light of the overall project purposes (40 CFR 230.3(q)). An alternative must be capable of achieving the basic project purpose to be deemed practicable. The basic purpose test does not identify which alternative best meets the project purpose, but rather, defines the

scope of alternatives. The following discussion provides the EPA’s practicability evaluation and determinations.

The applicant’s stated purpose in the Public Notice is “[t]o provide improved surface transportation to and from Juneau within the Lynn Canal corridor, that will provide the capacity to meet the transportation demand in the corridor, provide flexibility and improve opportunity for travel, reduce travel time between the Lynn Canal communities of Juneau, Haines, and Skagway, reduce State and user costs for transportation in the corridor.” The purpose statement includes an overall goal to improve surface transportation between Juneau, Haines, and Skagway. The statement includes the evaluation criteria related to capacity, flexibility, travel time, state costs, and user costs.

Within the context of the Guidelines, the EPA concurs with the overall project purpose as well as the evaluation criteria related to capacity, flexibility, and travel time. However, the EPA does not concur that the costs should be considered as an evaluation criterion. In accordance with the Guidelines, total initial project costs should be taken into consideration in light of overall project purposes for all practicable alternatives.

To evaluate the alternatives in light of the overall project purpose and through the evaluation criteria, the EPA analyzed capacity, flexibility and travel time. To evaluate capacity, the EPA evaluated alternatives in relationship to the No Action Alternative rather than to an unconstrained traffic model as is demonstrated in the DSEIS. Each of these alternatives increased the summer capacity for travel between Juneau and Skagway and Haines (Figure 1). Therefore, all the Action Alternatives meet the capacity element of the overall purpose.

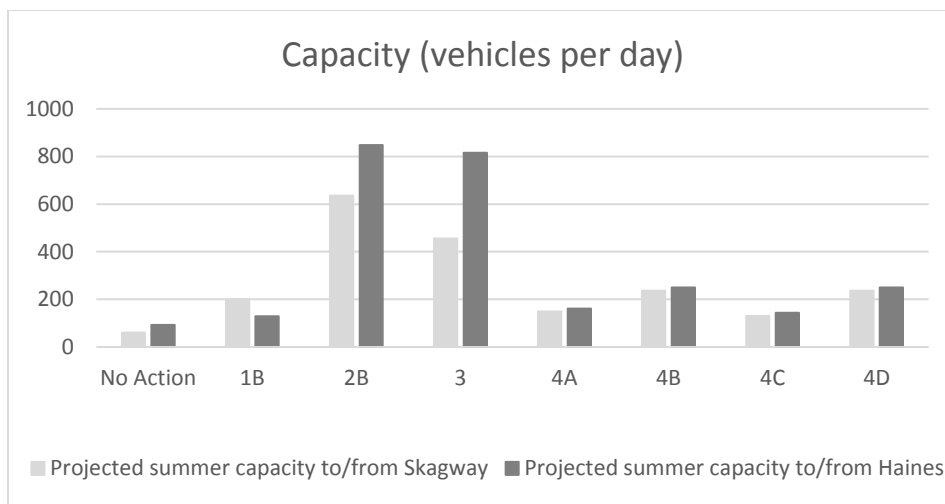


Figure 1. The projected summer capacity, number of vehicles per day, from Juneau to and from Skagway and to and from Haines. Alternative 2B is the applicant’s proposed project.

Similarly, to evaluate flexibility, the EPA compared the number of ferry round trips per week of the Action Alternatives to the No Action Alternative in a chart (Figure 2). Each of these action alternatives increased flexibility between Juneau and Skagway. Alternative 1B was the only alternative that did not increase, but maintained the flexibility between Juneau and Haines. Therefore all Action Alternatives increased flexibility; however, Alternative 1B only increased flexibility to Skagway.

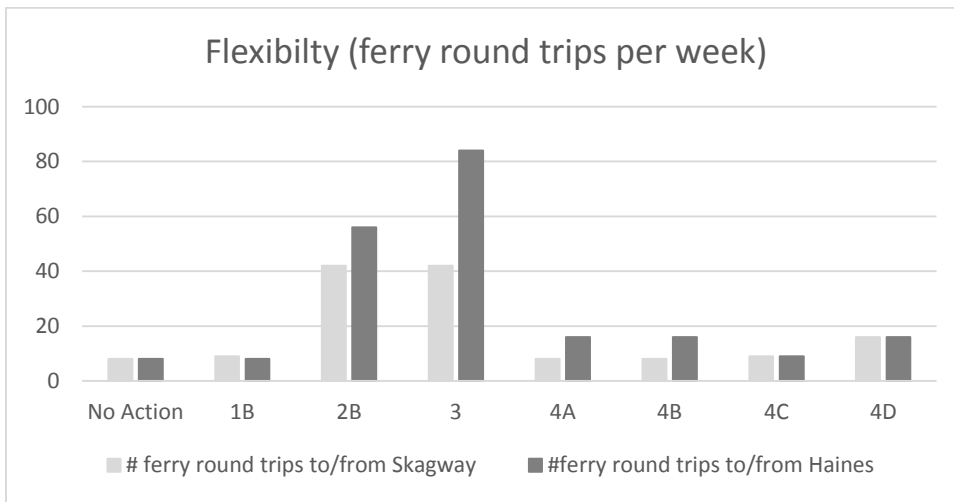


Figure 2. Flexibility measured in the number of ferry round trips each alternative will allow to and from Juneau and Skagway and to and from Juneau and Haines. Alternative 2B is the applicant's proposed project.

The EPA evaluated travel time for each alternative in hours to travel between Juneau and Skagway and Haines, and is displayed in the summary chart below (Figure 3). It should be noted that the travel time for Alternatives 2B and 3 do not factor in wait time for a ferry if the vehicle arrives after the ferry has departed. Additionally, the travel time for Alternatives 2B and 3 also includes a driving speed of 45 miles per hour which may not always be attainable. There are a number of complicating factors to analyze this element; however, given the data in the DSEIS, all Action Alternatives decrease the summer travel time between Juneau and Skagway, and Alternatives 2B, 3, 4A, 4B and 4D decrease the summer travel time between Juneau and Haines.

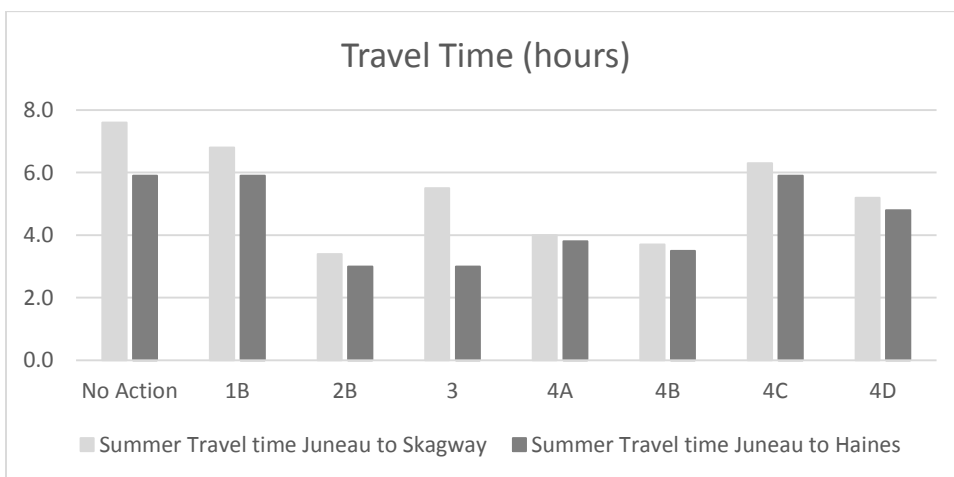


Figure 3. Travel time in hours for each alternative from Juneau to Skagway (light gray) and from Juneau to Haines (dark gray). Alternative 2B is the applicant's proposed project.

Based on the information found in the Public Notice and the DSEIS, the EPA's analysis of the alternatives in light of the overall project purpose concludes that all Action Alternatives meet the overall

project purpose. Alternatives 2B, 3, 4A, 4B and 4D best meet all of the flexibility and reduced travel time elements of the project purpose and need statement.

As previously stated, the Guidelines provide for consideration of cost in light of overall project purpose for all of the practicable alternatives. For construction projects, it is appropriate to consider the total construction costs; however, it is not appropriate to consider operating and maintenance costs. Additionally, the total cost for each project should be evaluated, rather than just the state or federal portion of the project cost. Accordingly, only the total project costs are listed in the summary table (Table 1). Considering that the proposed project is also the project with the highest total construction costs, each alternative should be considered practicable in light of cost.

Summary of Practicability Evaluation Criteria								
Factor	No Action	1B	2B*	3	4A	4B	4C	4D
Capacity = summer capacity (vehicles per day)								
Projected summer capacity to/from Skagway	61	201	636	456	149	237	131	237
Projected summer capacity to/from Haines	93	129	848	816	162	250	144	250
Flexibility = # summer ferry round trips								
# ferry round trips to/from Skagway	8	9	42	42	8	8	9	16
#ferry round trips to/from Haines	8	8	56	84	16	16	9	16
Travel Time (hours)								
Summer Travel time Juneau to Skagway	7.6	6.8	3.4	5.5 NB/ 5.2 SB	4.0	3.7	6.3	5.2
Summer Travel time Juneau to Haines	5.9	5.9	3.0	3.0	3.8	3.5	5.9	4.8
Costs (Millions)								
Initial Total Project Costs	\$27.0	\$27.0	\$600.8	\$542.4	\$254.3	\$313.5	\$89.9	\$116.9

Table 1. Summary of alternatives in regard to the elements of the overall project purpose. Alternative 2B is the applicant's proposed project.

The Guidelines state that only the least environmentally damaging practicable alternative may be permitted. The proposed alternative includes the most stream crossings, wetland acres filled, and subtidal and intertidal acres filled (Table 2). Each of the other Action Alternatives has fewer impacts to each of these areas than the proposed project. Alternatives 4A, 4B, 4C and 4D have the least impacts to aquatic resources, and Alternatives 4A, 4B and 4D meet all of the elements of the stated project purpose and need.

Factor	No Action	1B	2B*	3	4A	4B	4C	4D
Natural Resources Impacts								
Number of Streams Crossed	0	0	46	32	0	5	0	5
Number of Anadromous Streams Crossed	0	0	10	11	0	1	0	1
Wetland Acres Filled	0	0	60.7	26	0	1.5	0	1.5
Intertidal/Subtidal losses (acres)	0	0	32.1	11.6	0.7	2.6	0.7	2.6

Table 2. Summary of alternatives in regard to the natural resource impacts. Alternative 2B is the applicant's proposed project.

In conclusion, the applicant did not apply the Guidelines correctly to identify the LEDPA. The applicant failed to first analyze all alternatives for practicability in light of the overall project purpose and then assess the environmental impact of each practicable alternative. The practicability evaluation is not meant to identify which alternative best meets the project purpose, but rather, identifies which alternatives are practicable within the scope of the purpose and need. The EPA has concluded that most of the evaluated alternatives meet the practicability requirement and Alternatives 4A, 4B, and 4D meet both practicability and include the least environmental harm.

MINIMIZATION

The Guidelines require that no discharge of dredged or fill material shall be permitted unless appropriate and practicable steps have been taken which will minimize potential adverse impacts of the discharge on the aquatic ecosystem (40 CFR 230.10(d)). The proposed project's impacts reflect a reduction in impacts to aquatic resources in Berners Bay from the previous project plan. The EPA appreciates those reductions.

However, we request the same level of effort be applied to minimize the adverse effects of Alternatives 3, 4B and 4D on Berners Bay. Consistent with our November 25, 2014 comments on the Draft SEIS for this project, we recommend that the applicant consider the following minimization measures (or an appropriate combination thereof) for Alternatives 3, 4B and 4D:

- 1) move the Sawmill Cove ferry terminal to a suitable site outside of Berners Bay (e.g., Tee Harbor, Amalga Harbor, Pearl Harbor, Yankee Cove, Sunshine Cove, Bridget Cove);
- 2) if that is not practicable, move the Sawmill Cove ferry terminal to Cascade Point and remove the road segment from Cascade Point to Sawmill Cove (see pages 10 and 24 of the "Draft Design Concept Report for the Day Boat ACF" and page 6 of the "Day Boat ACF Design Study Report");
- 3) move the Berners Bay ferry operations to the Auke Bay ferry terminal during the eulachon and herring spawning period, which is approximately two weeks in late April and early May (note that Alternatives 4B and 4D already meet this goal);
- 4) impose an AMHS ferry speed limit within Berners Bay during the eulachon and herring spawning period to reduce the risk of collision with humpback whales;
- 5) establish an AMHS ferry lane within Berners Bay that is at least one nautical mile from Point Bridget and Point Saint Mary to minimize adverse effects on herring spawning habitat, Steller sea lions and Point Bridget State Park; and

- 6) designate a trained marine mammal observer on board each Berners Bay ferry during the eulachon and herring spawning period.

However, if Alternative 2B is determined to be the LEDPA, the EPA concludes that further steps can be taken to minimize impacts to aquatic resources while still meeting the overall project purpose and need. We recommend that the Corps consider Alternative 2B with revisions, namely the relocation of the ferry terminal to the south side of the Katzechin river delta, thus eliminating the bridge crossing and road segment north of the Katzechin River.

COMPENSATION

Once all appropriate and practicable measures have been taken to avoid and minimize potential harm to the aquatic ecosystem, the mitigation sequence requires an evaluation of compensation be provided to offset the remaining, unavoidable project impacts. If compensation is determined to be appropriate (i.e., commensurate with the impacts) and practicable, the implementation of the compensation must be in accordance with regulations jointly developed by the Corps and the EPA, "*Compensatory Mitigation for Losses of Aquatic Resources; Final Rule*" (Final Rule; 40 CFR Section 230).

The Final Rule was codified as part of the Guidelines, and compliance is necessary for permit issuance. Several sections are relevant to review of the project. Pursuant to 40 CFR Section 230.93(f)(1), the amount of required compensatory mitigation must be, to the extent practicable, sufficient to replace lost aquatic resource functions. This same subsection indicates that functional or condition assessments should be used to quantify functional loss from the proposed project and determine how much compensatory mitigation is required.

The impacts to aquatic resources from the proposed project were initially assessed in 2004, with amendments to the technical reports in 2006 and 2014. A qualitative assessment was performed to classify wetlands and water bodies into four categories which are intended to reflect different levels of functional performance. The placement of wetlands into the four categories was based on their Cowardin classification, including hydrologic modifiers, and their geographic location in relation to Berners Bay. Only the waters of Berners Bay and adjacent flooded wetlands were identified as Category I-High-Functioning. None of the wetlands directly impacted by the project were rated as Category I.

The EPA agrees that wetlands and streams around Berners Bay are high functioning and highly valuable. It does not necessarily follow, however, that the other aquatic resources along the project route are lower functioning. We regard this outcome as an artifact of arbitrarily defining high-functioning wetlands as rare. The methods used to attribute function and categorize the wetlands in 2004 relied on indirect measures and are currently outdated and should be considered tentative.

We conclude the level of impact from the proposed project warrants the use of the best available tools. It is our position that the 2004 wetland functional assessment should be re-done using the tools currently available. For freshwater wetlands, the EPA recommends the applicant use the Wetland Ecosystem Services Protocol for Southeast Alaska (WESPAK-SE) which was developed in 2012 specifically to assess the functions and values of freshwater wetlands in Southeast Alaska. This methodology uses site-specific data to quantify the performance of eighteen distinct functions and the societal values associated with performance of those functions.

The WESPAK-SE methodology does not apply to marine waters and therefore, the EPA recommends the applicant use a different assessment method for the proposed impacts to functions of marine waters. The EPA recommends the applicant use the Habitat Equivalency Analysis (HEA), which has been used to assess functions in marine waters in Southeast Alaska and could be used to validate the category ratings from the 2004 assessment.

The applicant is proposing compensation ratios from an in-lieu fee provider of: 2:1 for 13.5 acres of Category II palustrine wetlands, 1.5:1 for 47.2 of category III palustrine wetlands, and also 1.5:1 for 32.1 acres of category III marine waters. The public notice does not propose compensation for 4.4 acres of dredging associated with the Katzeihin Ferry Terminal nor 2.9 acres of fill for the 46 stream crossings. The EPA recommends the applicant assess these impacts for functional loss and to compensate for such losses as outlined in the Final Rule. The proposed mitigation ratios comport with ratios typically required by the Alaska District; however, as mentioned above, we believe the applicant's categorization of the wetlands undervalues their actual functional performance. Performing a re-evaluation using the WESPAK-SE and HEA should provide a more accurate basis for determining the ratios necessary to offset the proposed impacts.

The Final Rule indicates that marine and stream resources should generally be compensated in-kind through the preservation, enhancement, or restoration of similar resources unless a watershed approach indicates otherwise. If the inter-tidal, sub-tidal, and stream impacts are not offset in-kind, the mitigation ratios should be increased to account for this.

The public notice states that the applicant proposes to offset the project impacts by purchasing in-lieu fee (ILF) credits and also conducting permittee-responsible compensatory mitigation (PRM). To utilize ILF credits, an applicant is only required to identify the ILF provider from which it intends to purchase advance or released credits. The Corps will then determine if the ILF provider has appropriate credits available.

The requirements are more substantial if an applicant intends to generate mitigation credits itself via a PRM project. Similar to mitigation bank and ILF program sponsors, applicants proposing to conduct PRM must submit mitigation plans that comply with the Final Rule. The Final Rule identifies the twelve required elements of a mitigation plan. The mitigation plan for an individual permit may be submitted as a draft, but the final mitigation plan, "*which must be approved by the district engineer prior to issuing the individual permit,*" must include the items described in 40 CFR Section 230.94 (c)(2) through (c)(14).

The applicant has not yet submitted a mitigation plan for its potential PRM projects. The applicant indicates that any plan submitted would comply with the regulations and would include a determination of credits for two PRM projects as well as the amount of credits to be purchased from an ILF provider. The lack of a detailed mitigation plan prevents an applicant from demonstrating compliance with the Guidelines, precludes permit issuance by the Corps, and precludes complete review of the project via the public notice.

The information provided in the DSEIS and the public notice lacks the specificity needed to adequately assess the aquatic resource functions that would be lost and to assess if the proposed compensation

would adequately replace those lost functions. The EPA concludes that the project impacts to freshwater wetlands should be quantified using WESPAK-SE and impacts to marine waters use HEA in order to determine the appropriate amount of compensation.

SUMMARY

In summary, the EPA has reviewed the information in the DSEIS and the Public Notice and has determined that the proposed project may substantially and unacceptably impact Berners Bay and other surface waters in the Lynn Canal watershed, that are aquatic resources of national importance. Additionally, the proposed project does not meet the 404(b)(1) Guidelines in that there appear to be practicable alternatives, in light of the stated project purpose and need, that are less environmentally damaging. Additionally, the EPA requests that the applicant apply further minimizations to the less damaging practicable alternatives. Finally, once all appropriate and practicable measures have been taken to avoid and minimize potential harm to the aquatic ecosystem, the mitigation sequence requires compensation be provided to offset the remaining, unavoidable project impacts. The implementation of the compensation must be in accordance with the Final Rule jointly developed by the Corps and EPA; currently, there is insufficient information to evaluate whether the proposed compensatory mitigation meets the requirements of the Final Rule.